

# Work Order ID 68272

Monday, April 11, 2011 11:14:09 AM



Page 1

Item ID: D4149-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/11/2011 Start Qty: 2.00



Cust Item ID:

Required Date: 4/15/2011 Req'd Qty: 2.00



Customer:

Reference:

Approvals: Process Plan: HL Date: 11-04-11 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4149	C

100		0.00
Small Fab	Memo	0.00
Small Fab	1- Assemble as per dwg	

ES 11/04/12 (2)

110	QC5- Inspect part completeness to step on W/O	0.00
QC	Memo	0.00
Quality Control		

MA 11 04 13 (2)

120	Identify as per dwg & Stock Location: <u>Y68</u>	0.00
Packaging	Memo	0.00
Packaging		

11/14/13 (2)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 68272**

Monday, April 11, 2011 11:14:09 AM

Page 2

Item ID: D4149-041

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Stop

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Start Date: 4/11/2011 Start Qty: 2.00

Cust Item ID:

Required Date: 4/15/2011 Req'd Qty: 2.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/4/14  
MF  
11-04-13

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 11, 2011 11:14:15 AM

Page 1

Work Order ID: 68272

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/11/2011





Required Date: 4/15/2011

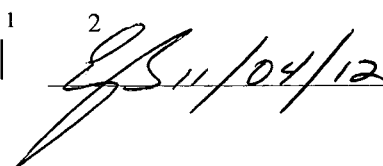
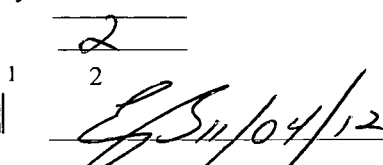
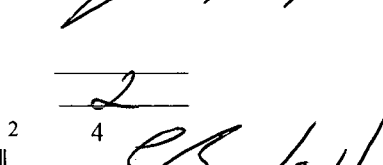
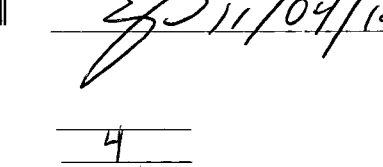
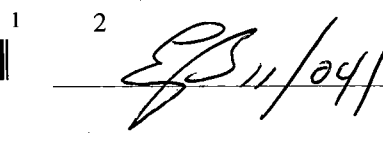
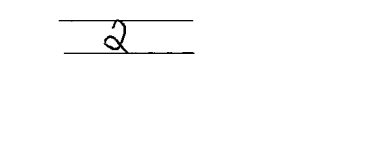
Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC  
IPP Rev:B 10.07.22 as per revB DD verf:JLM  
11.03.03 as per revC DD verf:JLM

IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3910-1  Crosstube Lug		Manufactured	No			100	Each	7.0000	1	2			
<div> <div>Location</div> <div>st507</div> <div>65631</div> </div> <div> <div>Loc Qty</div> <div>7</div> <div>7</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> </div>													
D4091-1  Mounting Lug		Manufactured	No			100	Each	12.0000	1	2			
<div> <div>Location</div> <div>ST460</div> <div>65626</div> </div> <div> <div>Loc Qty</div> <div>12</div> <div>12</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> </div>													
D4149-1  Crosstube Lug Plate, Aft		Manufactured	No			100	Each	9.0000	2	4			
<div> <div>Location</div> <div>ST133</div> <div>66896</div> </div> <div> <div>Loc Qty</div> <div>9</div> <div>9</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> </div>													
D4149-3  Spacer		Manufactured	No			100	Each	3.0000	1	2			
<div> <div>Location</div> <div>ST133</div> <div>61010</div> </div> <div> <div>Loc Qty</div> <div>3</div> <div>3</div> </div> <div> <div>Loc Code</div> <div></div> <div></div> </div>													

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Picklist Print

Monday, April 11, 2011 11:14:15 AM

Work Order ID: 68272

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/11/2011

Required Date: 4/15/2011

Start Qty: 2.00

Required Qty: 2.00

D4149-5  
  
 Eyebolt Stud

Manufactured No

100

Each

5.0000

1

2



*EP 11/04/12*

Location

Loc Qty

Loc Code

ST133

5

66897

5

AN3C12A  
  
 Bolts

Purchased No

100

Each

85.0000

2

4



*EP 11/04/12*

Location

Loc Qty

Loc Code

ST351

85

116924

35

117313

50

AN4C13A  
  
 BOLT

Purchased No

100

Each

72.0000

3

6



*EP 11/04/12*

Location

Loc Qty

Loc Code

ST353

60

117366

60

ST357

12

114492

4

116914

8

MS20615-4M18  
  
 Rivet

Purchased No

100

Each

34.0000

3

6



*EP 11/04/12*

Location

Loc Qty

Loc Code

GA

34

115037

34

MS21043C3  
  
 Nut

Purchased No

100

Each

0.0000

2

4



*EP 11/04/12*

*M112314 (42)*

Monday, April 11, 2011 11:14:16 AM

Shop Packet Print

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Monday, April 11, 2011 11:14:16 AM

Work Order ID: 68272

Parent Item: D4149-041

Parent Item Name: Crosstube Lug Assembly, Aft

Start Date: 4/11/2011

Required Date: 4/15/2011

Start Qty: 2.00

Required Qty: 2.00

8

MS21043-4

Purchased

No

100

Each

0.0000

3

6



Nut

NAS1149C0332R

Purchased

No

100

Each

5,049.000

4

8



Washer

Location

Loc Qty

Loc Code

ST297

5049

115832

10

116304

55

117291

4984

NAS1149C0432R

Purchased

No

100

Each

6,590.000

6

12



Washer

Location

Loc Qty

Loc Code

ST297

6590

116900

1590

117291

5000

M116188 (6.2)

EP 5/4/12  
8  
EP 11/04/12

EP 11/04/12  
12

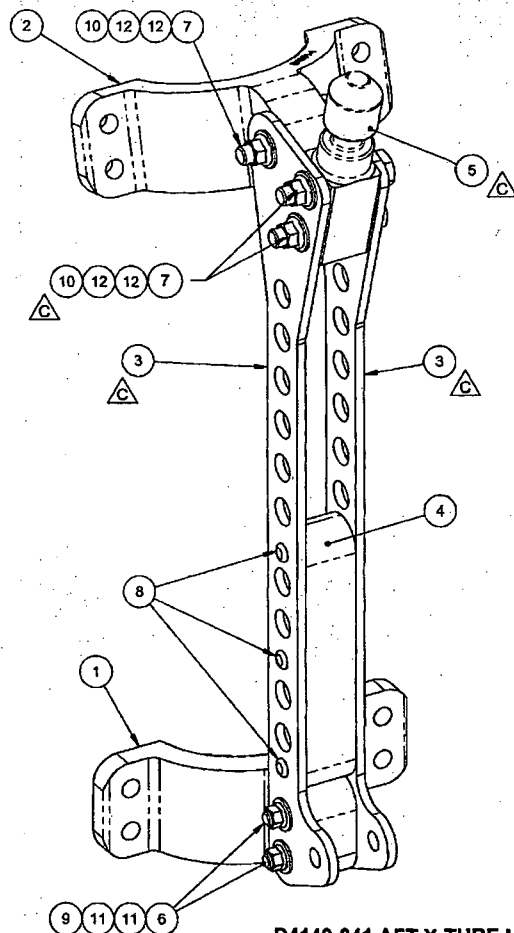
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng				Sign & Date

**NOTE:** Date & initial all entries



**D4149-041 AFT X-TUBE LUG ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20615-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 68272  
REL-041-11

RELEASED  
2011-02-26  
JW

C	HOLE DIA CHANGED TO 0.252" (D3-3); HOLE DIA CHANGED TO 0.250" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, D7-2)	SC	11.02.22
B	MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-5 WAS D3909-5 (ZN D3-1 & D7-2); REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D8-3); REASON: SEE TR-D350-607-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>D4149</b> TITLE <b>AFT X-TUBE LUG ASSY</b> COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	SC		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.02.22	REV. C SHEET 1 OF 5 SCALE NTS	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

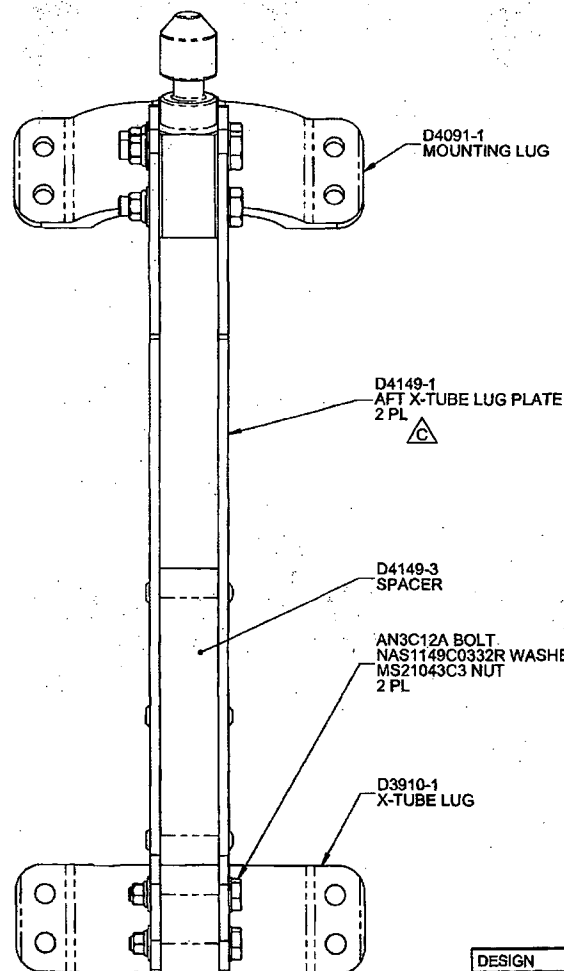
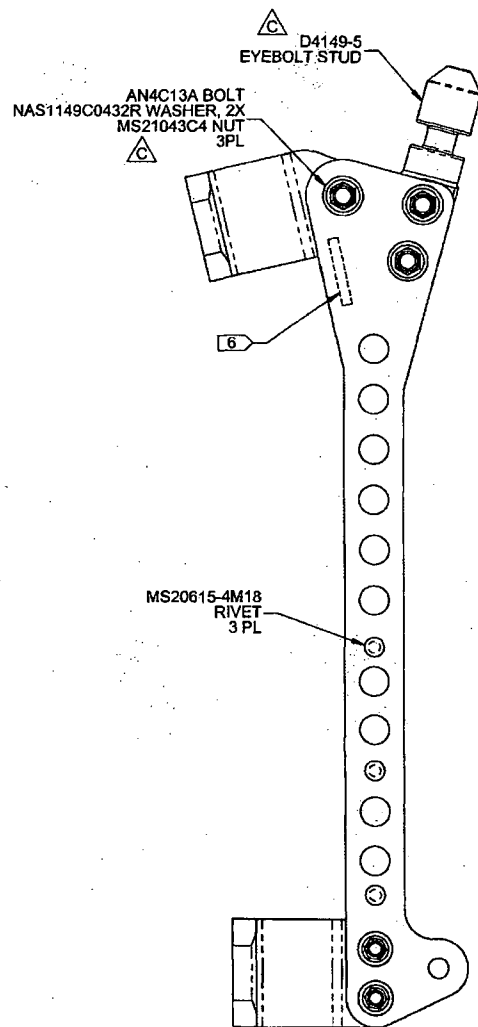
8 7 6 5 4 3 2 1

D

C

B

A



W068272

RELEASED  
2011-02-24

**D4149-041 AFT X-TUBE LUG ASSY**

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 2 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
DATE	11.02.22	<small>COPYRIGHT © 2016 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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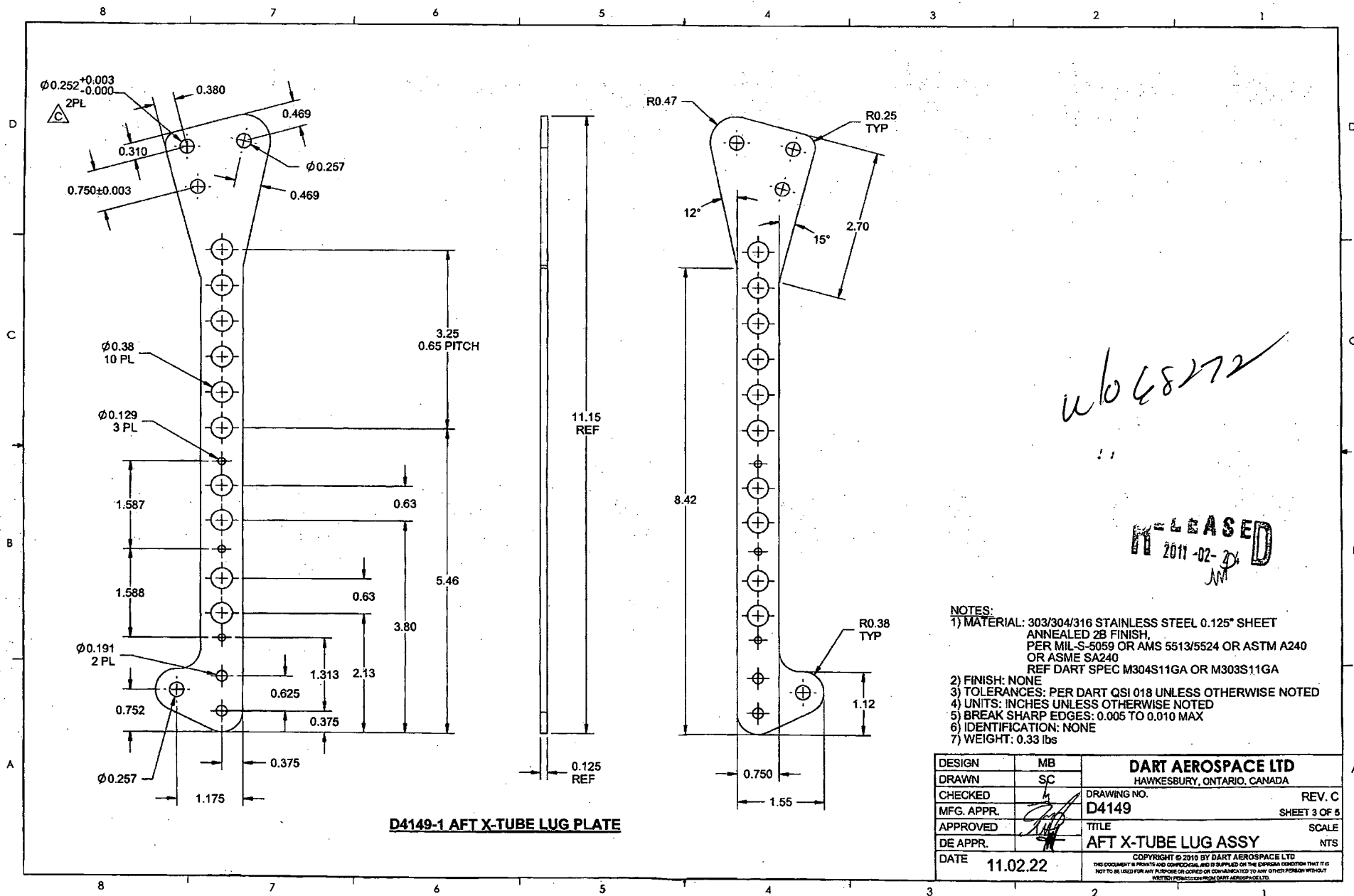
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO. <b>D4149</b>	REV. C
MFG. APPR.			SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

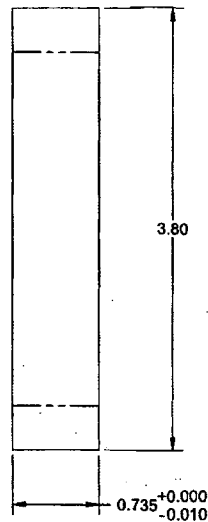
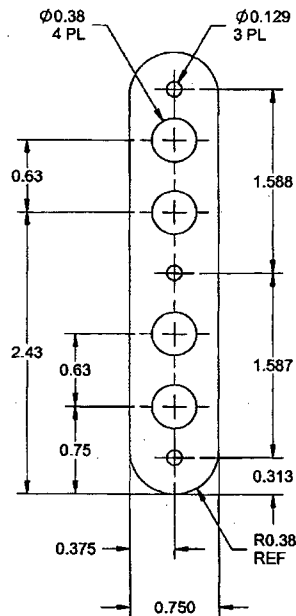
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

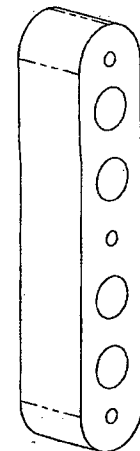
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DATE	STEP	Description of NC Section A	Corrective Action Section B		Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng				Sign & Date

**NOTE:** Date & initial all entries





**D4149-3 SPACER**



*u/a 8272*

**RELEASED**  
2011-02-24

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.47 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESSBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 4 OF 6
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMBINED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

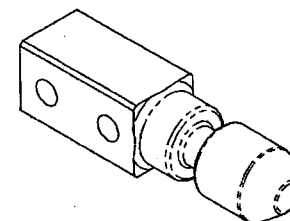
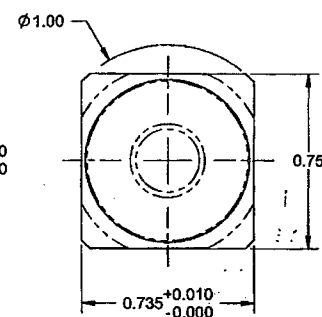
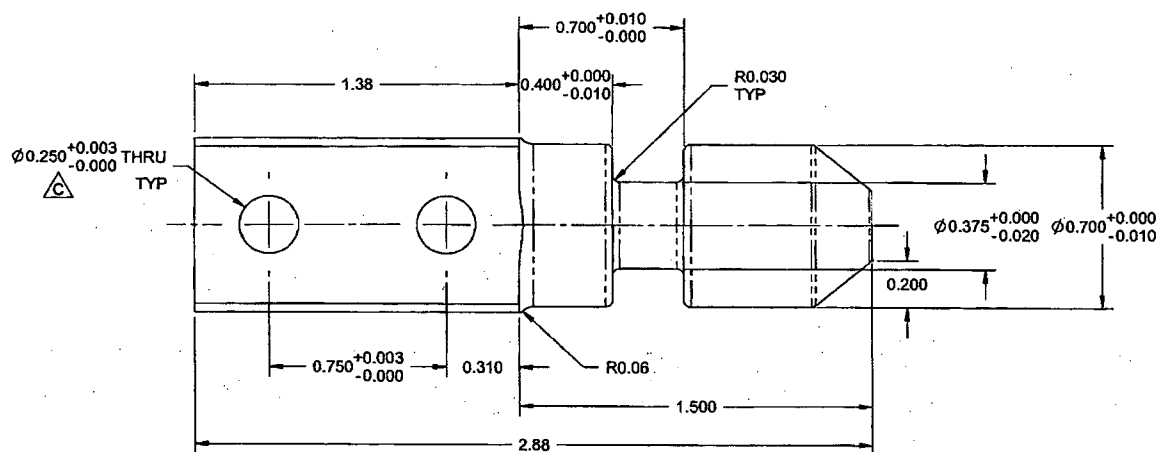
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B		Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng				Sign & Date

**NOTE:** Date & initial all entries



**D4149-5 EYEBOLT STUD**

u/068272

RELEASED  
2011-02-26

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-5" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.32 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)					
DATE	STEP	Description of NC Section A	Corrective Action Section B		Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng			

**NOTE:** Date & initial all entries